

## **Remarks**

### **35 U.S.C. § 103 Rejection of Claim**

In the October 6, 2004 office action, claims 1 through 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Atkins (U.S. Patent Number 5,852,811) in view of Tull (U.S. Patent Number 6,092,056). The Applicant traverses all § 103 rejections by noting that the office action fails to establish the prima facie case for obviousness that is required to sustain a §103 rejection.

A prima facie case for obviousness requires, among other things, a combination or modification of references that would make the invention obvious and a suggestion to combine or modify the references. More specifically, MPEP § 2143.01 provides that:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

As detailed below, the October 6, 2004 office action fails to establish a prima facie case of obviousness in at least three distinct ways.

The first way that the October 6, 2004 office action fails to establish is prima facie case for obviousness is that it does not identify a combination and/or modification of references that can be used to describe, anticipate or make obvious a single claim in the instant application. A review of the four independent claims in the instant application (claims 1, 33, 34 and 35) and the evidence referenced in the office action to support the rejection of these claims will illustrate this point.

First independent claim	<p>1. (amended) A computer readable medium having sequences of instructions stored therein, which when executed cause the processor in a computer to perform a quantification method, comprising:</p> <p>using data from a variety of sources to quantify the impact of elements of value on aspects of enterprise financial performance.</p>
Context provided by Applicant (Atkins, column 3 lines 5 – 20)	<p>The present invention is a method and apparatus for effecting at a financial institution an improved personal financial management system incorporating means of implementing, coordinating, supervising, planning, analyzing and reporting upon an array of asset accounts such as investments and liability accounts such as credit facilities. Through a prioritization function, a client specifies his financial objectives, a forecast of economic and financial variables, risk preference and the budgetary constraints to which he is subject. The prioritization function suggests investments and credit facilities to the client to best realize his financial objectives, and may also suggest one or more contractual agreement(s) reflecting a derivative form of financial instrument(s) that may best assist the client in realizing his financial objectives.</p>
Reference cited in Office Action (Atkins, column 22 lines 50-65)	<p>The system of the invention also provides a client with a variety of standard accounting information which has commonly been used in a business environment but has seldom been appropriately applied to personal financial reporting. For example, the system may provide a client with sources and uses of funds statements, personal balance sheets indicating the market value of assets and liabilities in each category and illustrating the client's net worth, a profit and loss report indicating net income for the period and year to date and an income and expense report comparing actual results to budgeted amounts. Data visualization methods and multimedia computer hardware and software may be used to demonstrate the effects upon an individual client's financial status of an anticipated or an executed transaction.</p> <p>Through the system of the invention, the client can also access a host of ancillary investment news, information, advice, and counseling.</p>
Reference cited in Office Action (Atkins, column 23 lines 1 – 35)	<p>For information retrieval the data base can be accessed directly by the client in a manner consistent with the appropriate security procedures or it can be accessed by structured query language (SQL) calls or by means of an expert system that interprets text to retrieve news and other data that are of particular interest to the client. Clients of the HOME Account can also receive personal financial planning and analysis assistance by means of an interactive expert computer system and direct consultation with financial planners. <b>In the preferred embodiment of the invention an expert system provides integrated financial advice to the client consistent with achieving the client's</b></p>

	<p><b>specific investment objectives subject to budgetary and risk-related constraints. Recent advances in rule, case, fuzzy logic and model based expert systems</b> together with advances in such pattern recognition technologies as neural networks, classifier systems incorporating genetic learning techniques and abductive reasoning tools offer financial institutions the ability to provide their clients with intelligent financial advice at a reduced cost and an enhanced level of reliability over reliance upon account managers. Knowledge based systems offer a convenient and cost effective means of providing integrated planning and analysis services to clients that are consistent with and utilize techniques derived from modern portfolio theory, capital asset pricing models, and operations research methodologies to help the customer realize his financial objectives. In cases where multiple problem solving techniques are required to best realize a client's objectives, a blackboard or other type of expert system is used to properly apply each problem solving technique to the appropriate aspect of the problem and incorporate a form of machine learning. Both stochastic and fuzzy techniques for dynamic multi-objective decision making under uncertainty provide portfolio optimization tools that explicitly integrate considerations of risk and uncertainty in the planning process.</p>
Context provided by Applicant (Atkins, column 23 lines 36 – 40)	<p><b>Moreover, expert systems incorporating these problem solving methodologies offer full interactive explanatory capabilities so that clients can not only understand the advice given but also the rationale and the reasoning that generated the advice.</b></p>
Reference cited in Office Action (Atkins column 23, lines 60-65)	<p>In the preferred embodiment of the invention, the financial institution or a data processing firm providing computing services to the financial institution, would maintain a computer system that integrated a variety of different types of computer hardware into an open network computing environment.</p>
Reference cited in Office Action (Atkins column 24, lines 1 - 35)	<p>All aspects of the parallel distributed processing system may communicate with one another in a variety of forms (i.e. voice, data, multimedia etc.). Key hardware components of the system are fault-tolerant. The operating system provides for real-time on-line transaction processing and offers a secure environment for multiple users conducting multitasking. Users may utilize multiple processors in such a distributed computing environment. Compute intensive activities such as use of expert systems, optimization, imaging and multimedia applications may be performed by separate processors or compute servers.</p> <p>All aspects, of the system including hardware and software applications, may transparently communicate and share information with each other. In this way financial institutions may provide convenient access to a full range of financial and information services to customers and the financial institutions' personnel. Computerized voice recognition techniques allow customers and the personnel of the financial institution to enter transaction orders into the system and to have their identity</p>

	<p>confirmed for security purposes. The system advantageously incorporates recent advances in object oriented design in its operating system, communication protocols, and software design.</p> <p>Examples of such system components include workstations by AT&amp;T, NCR, SUN (Sparc Station 2), NeXT, IBM (RS6000) and others. These same companies produce file servers of various processing capacities. Parallel processing DBMS servers from Teradata and open system parallel processing servers from NCR such as the System 3600 offer scalable parallel processing system capacity for expert system support and OLTP. Top End from NCR and Tuxedo/T from AT&amp;T are illustrative transaction processing monitors that may be incorporated into the system.</p>
Reference cited in Office Action (Atkins, column 24, lines 60-65)	The computer system 220 comprises a Central Processing Unit (CPU) 232, Random Access Memory (RAM) 234, Read Only Memory (ROM) 236, on-line 238 and off-line 240 storage and communication and input/output (I/O) ports 242.
Reference cited in Office Action (Atkins, column 5 lines 29-31)	For example, the home owner's total assets, as adjusted to provide the financial institution with a measure of security for its lending, must always be greater than some imposed minimum standard or minimum borrowing power.
Context provided by Applicant (Tull, abstract)	A data processing system and method is disclosed for implementing and control of a financial instrument which is issued for a limited period of time. The instrument is based on an underlying basket of stocks optimally selected to track an established capital market and its price also reflects accrued investment income and maintenance expenses.
Reference cited in Office Action (Tull, column 3, lines 33-37)	It is a further object of the present invention to provide data processing means for determining a price for a basket of shares which is packaged as a debt instrument so as to reflect the current aggregate value of the shares and accrued income and expenses associated with all shares in the basket.
Reference cited in Office Action (Tull, column 3 lines 20-25)	It is an object of the present invention to provide a financial management system to develop and administer a financial debt instrument traded as a listed security to investors desiring to track the performance of a domestic or foreign capital market. Another object of the present invention is to provide a system and method for optimized selection of shares the performance of which is designed to track the performance of the related equity index over a limited period of time.
Reference cited in Office Action (Tull, column 6, lines 6-15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull,	<p>The Modeling System</p> <p>Still in reference to FIG. 1, the optimized basket of shares</p>

column 7, lines 1-65)	<p>underlying an OPALS 10 is selected in a preferred embodiment of the present invention by modeling system 3. In order to adequately follow a market index, for small capital markets it may be necessary to purchase shares of all stocks. In larger markets, however, it would be more cost efficient to purchase only a subset of all stocks which subset is representative of the market as a whole. An advantage of this approach is that it avoids the costs associated with the transactions and monitoring on a daily basis of large numbers of stocks. Factors such as capitalization, the industries representation, the liquidity the local shares and others are used in the stock selection process.</p> <p>This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.</p> <p>In a specific embodiment, modeling system 3 determines the optimal basket of stocks by sorting the stocks of the capital market in a descending order of market values and storing the sequence in a computer memory.</p> <p>For each stock of the portfolio, modeling means 4 then computes the associated volatility or beta factor using well known techniques. Modeling means 4 then stores in a memory (not shown) the beta factor of each individual stock. The list of beta values is then added and divided by the number of all beta values to obtain the average beta value for the stocks in the model basket of shares. If the average beta for the basket of shares is greater than unity, the programming function operated by modeling means 4 will review the portfolio and add or substitute stocks with lower beta factors to bring the average to or less than about 1. This selection of substitute stocks can be made by an operator using the optimization software to select the shares to be deleted from or added to the composite of basket of shares to adjust the tracking tolerance. Another step used in the selection of the model portfolio involves analysis of the capitalization of the stocks in the selected portfolio. Capitalization may be defined as the value obtained by multiplying the total number of outstanding shares of a stock by the current price of the stock. Risk evaluation means 6 computes the capitalization of each stock in the model basket, adds them up and divides the result by the number of stocks in the portfolio to obtain the average model capitalization. Risk evaluation</p>
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	means 6 next determines or obtains from an outside source the average capitalization value for the particular market which is being followed and compares the result to the computed capitalization of the model basket. Should there be a discrepancy between the two values which is above a predetermined threshold, the program implemented by means 6 may be directed to substitute either new stocks from the capital market or change the weighing of the stocks represented in the basket.
What is described?	Atkins describes a computer based system for managing a client's personal investments and liabilities that includes access to expert systems that can recommend courses of actions based on the customers goals, forecasts and the rationale(s) programmed into said expert systems. Tull describes a system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. Methods, systems and/or media for analyzing or managing enterprise financial performance, and</li> <li>2. Using data from a variety of sources to quantify the impact of elements of value on aspects of enterprise financial performance.</li> </ol>
Objection	The Applicant objects to the statement that Tull teaches "quantifying the impact of elements of value on aspects of enterprise financial performance" does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 1.

Second independent claim	33. (amended) A quantification system, comprising: a computer with a processor having circuitry to execute instructions; a storage device available to said processor with sequences of instructions stored therein, which when executed cause the processor to: use data from a variety of sources to quantify the impact of intangible elements of value on aspects of enterprise financial performance.
Context provided by Applicant (Atkins, column 3 lines 5 – 20)	The present invention is a method and apparatus for effecting at a financial institution an improved personal financial management system incorporating means of implementing, coordinating, supervising, planning, analyzing and reporting upon an array of asset accounts such as investments and liability accounts such as credit facilities. Through a prioritization function, a client specifies his financial objectives, a forecast of economic and financial variables, risk preference and the budgetary constraints to which he is subject. The prioritization function suggests investments and credit facilities to the client to best realize his financial objectives, and may also suggest one or more contractual agreement(s) reflecting a derivative form of financial instrument(s) that may best assist the client in realizing his financial objectives.
Reference cited in Office Action (Atkins, column 22 lines 50-65)	<p>The system of the invention also provides a client with a variety of standard accounting information which has commonly been used in a business environment but has seldom been appropriately applied to personal financial reporting. For example, the system may provide a client with sources and uses of funds statements, personal balance sheets indicating the market value of assets and liabilities in each category and illustrating the client's net worth, a profit and loss report indicating net income for the period and year to date and an income and expense report comparing actual results to budgeted amounts. Data visualization methods and multimedia computer hardware and software may be used to demonstrate the effects upon an individual client's financial status of an anticipated or an executed transaction.</p> <p>Through the system of the invention, the client can also access a host of ancillary investment news, information, advice, and counseling.</p>
Reference cited in Office Action (Atkins, column 23 lines 1 – 35)	For information retrieval the data base can be accessed directly by the client in a manner consistent with the appropriate security procedures or it can be accessed by structured query language (SQL) calls or by means of an expert system that interprets text to retrieve news and other data that are of particular interest to the client. Clients of the HOME Account can also receive personal financial planning and analysis assistance by means of an interactive expert computer system and direct consultation with financial planners. <b>In the preferred embodiment of the invention an expert system provides integrated financial</b>

	<p><b>advice to the client consistent with achieving the client's specific investment objectives subject to budgetary and risk-related constraints. Recent advances in rule, case, fuzzy logic and model based expert systems together with advances in such pattern recognition technologies as neural networks, classifier systems incorporating genetic learning techniques and abductive reasoning tools offer financial institutions the ability to provide their clients with intelligent financial advice at a reduced cost and an enhanced level of reliability over reliance upon account managers. Knowledge based systems offer a convenient and cost effective means of providing integrated planning and analysis services to clients that are consistent with and utilize techniques derived from modern portfolio theory, capital asset pricing models, and operations research methodologies to help the customer realize his financial objectives. In cases where multiple problem solving techniques are required to best realize a client's objectives, a blackboard or other type of expert system is used to properly apply each problem solving technique to the appropriate aspect of the problem and incorporate a form of machine learning. Both stochastic and fuzzy techniques for dynamic multi-objective decision making under uncertainty provide portfolio optimization tools that explicitly integrate considerations of risk and uncertainty in the planning process.</b></p>
Context provided by Applicant (Atkins, column 23 lines 36 – 40)	<p><b>Moreover, expert systems incorporating these problem solving methodologies offer full interactive explanatory capabilities so that clients can not only understand the advice given but also the rationale and the reasoning that generated the advice.</b></p>
Reference cited in Office Action (Atkins, column 23 lines 60-65)	<p>In the preferred embodiment of the invention, the financial institution or a data processing firm providing computing services to the financial institution, would maintain a computer system that integrated a variety of different types of computer hardware into an open network computing environment.</p>
Reference cited in Office Action (Atkins column 24 lines 1 - 35)	<p>All aspects of the parallel distributed processing system may communicate with one another in a variety of forms (i.e. voice, data, multimedia etc.). Key hardware components of the system are fault-tolerant. The operating system provides for real-time on-line transaction processing and offers a secure environment for multiple users conducting multitasking. Users may utilize multiple processors in such a distributed computing environment. Compute intensive activities such as use of expert systems, optimization, imaging and multimedia applications may be performed by separate processors or compute servers.</p> <p>All aspects, of the system including hardware and software applications, may transparently communicate and share information with each other. In this way financial institutions may provide convenient access to a full range of financial and information services to customers and the financial institutions' personnel. Computerized voice recognition techniques allow customers and the personnel of the financial institution to enter</p>



	<p>transaction orders into the system and to have their identity confirmed for security purposes. The system advantageously incorporates recent advances in object oriented design in its operating system, communication protocols, and software design.</p> <p>Examples of such system components include workstations by AT&amp;T, NCR, SUN (Sparc Station 2), NeXT, IBM (RS6000) and others. These same companies produce file servers of various processing capacities. Parallel processing DBMS servers from Teradata and open system parallel processing servers from NCR such as the System 3600 offer scalable parallel processing system capacity for expert system support and OLTP. Top End from NCR and Tuxedo/T from AT&amp;T are illustrative transaction processing monitors that may be incorporated into the system.</p>
Reference cited in Office Action (Atkins, column 24, lines 60-65)	The computer system 220 comprises a Central Processing Unit (CPU) 232, Random Access Memory (RAM) 234, Read Only Memory (ROM) 236, on-line 238 and off-line 240 storage and communication and input/output (I/O) ports 242.
Reference cited in Office Action (Atkins, column 5 lines 29-31)	For example, the home owner's total assets, as adjusted to provide the financial institution with a measure of security for its lending, must always be greater than some imposed minimum standard or minimum borrowing power.
Context provided by Applicant (Tull, abstract)	A data processing system and method is disclosed for implementing and control of a financial instrument which is issued for a limited period of time. The instrument is based on an underlying basket of stocks optimally selected to track an established capital market and its price also reflects accrued investment income and maintenance expenses.
Reference cited in Office Action (Tull, column 8 lines 49-59)	FIG. 3 shows in more detail the structure of the data processing system 20 which is designed in accordance with the present invention to administer an OPALS debt instrument. In a preferred embodiment illustrated in FIG. 3, data processing system 20 comprises a processor unit 60, database 70 which stores data about the basket of shares underlying the OPALS and three computer applications: 30 called bids, 40--called status, and 50--termed dcalc. The applications 30, 40 and 50 interact with processor 60 to compute the current price of the OPALS. As shown in FIG. 3, data processing system 20 also receives input from the capital markets which input comprises raw transactions data for each stock.
Reference cited in Office Action (Tull, column 6, lines 6 - 30)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.

	<p>Based on the information from the modeling system 3, financial management structure 8 creates one or more financial debt instruments 10 which are designed to be traded as Optimized Portfolio Listed Securities ("OPALS"). Each OPALS 10 is packaged as a financial debt instrument which is characterized in that it can be traded as a single security and, for a limited period of time which is typically between one and five years, tracks a market index associated with the capital market. During their existence term, OPALS 10 generate income to their holders based on the performance of the underlying shares in accordance with a <b>prespecified</b> payment schedule. Such income is comprised of dividends on the shares in the basket of shares underlying each OPALS 10, proceeds from the sale of rights accruing to such shares, and income received from lending such shares. Upon maturity of the OPALS 10, its holder (a participating investor 5) is entitled to receive the entire basket of shares underlying the OPALS.</p>
<p>Reference cited in Office Action (Tull, see column 7, lines 1-65)</p>	<p><b>The Modeling System</b></p> <p>Still in reference to FIG. 1, the optimized basket of shares underlying an OPALS 10 is selected in a preferred embodiment of the present invention by modeling system 3. In order to adequately follow a market index, for small capital markets it may be necessary to purchase shares of all stocks. In larger markets, however, it would be more cost efficient to purchase only a subset of all stocks which subset is representative of the market as a whole. An advantage of this approach is that it avoids the costs associated with the transactions and monitoring on a daily basis of large numbers of stocks. Factors such as capitalization, the industries representation, the liquidity the local shares and others are used in the stock selection process.</p> <p>This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.</p> <p>In a specific embodiment, modeling system 3 determines the optimal basket of stocks by sorting the stocks of the capital market in a descending order of market values and storing the sequence in a computer memory.</p> <p>For each stock of the portfolio, modeling means 4 then computes the associated volatility or beta factor using well known techniques. Modeling means 4 then stores in a memory</p>

	<p>(not shown) the beta factor of each individual stock. The list of beta values is then added and divided by the number of all beta values to obtain the average beta value for the stocks in the model basket of shares. If the average beta for the basket of shares is greater than unity, the programming function operated by modeling means 4 will review the portfolio and add or substitute stocks with lower beta factors to bring the average to or less than about 1. This selection of substitute stocks can be made by an operator using the optimization software to select the shares to be deleted from or added to the composite of basket of shares to adjust the tracking tolerance. Another step used in the selection of the model portfolio involves analysis of the capitalization of the stocks in the selected portfolio. Capitalization may be defined as the value obtained by multiplying the total number of outstanding shares of a stock by the current price of the stock. Risk evaluation means 6 computes the capitalization of each stock in the model basket, adds them up and divides the result by the number of stocks in the portfolio to obtain the average model capitalization. Risk evaluation means 6 next determines or obtains from an outside source the average capitalization value for the particular market which is being followed and compares the result to the computed capitalization of the model basket. Should there be a discrepancy between the two values which is above a predetermined threshold, the program implemented by means 6 may be directed to substitute either new stocks from the capital market or change the weighing of the stocks represented in the basket.</p>
Reference cited in Office Action (Tull, column 6, lines 50-55)	<p>Data processing system 20 continuously monitors the price of the underlying basket of shares using input from a global communications network 9 connected to the capital market place. Based on this information, data processing system 20 computes the aggregate value of the entire underlying basket of shares and the current price of the OPALS 10 by further including the accrued income and the appropriate maintenance expenses.</p>
Reference cited in Office Action (Tull, column 3, lines 20 - 60)	<p>It is an object of the present invention to provide a financial management system to develop and administer a financial debt instrument traded as a listed security to investors desiring to track the performance of a domestic or foreign capital market. Another object of the present invention is to provide a system and method for optimized selection of shares the performance of which is designed to track the performance of the related equity index over a limited period of time. It is another object of the present invention to provide a data processing system for administering information on each share of a selected basket of shares which is representative of a capital market. It is a further object of the present invention to provide data processing means for determining a price for a basket of shares which is packaged as a debt instrument so as to reflect the</p>

	<p>current aggregate value of the shares and accrued income and expenses associated with all shares in the basket.</p> <p>Yet another object of the present invention is to provide a data processing system and method to rebalance a basket of shares which is representative of a capital market and is designed to track its performance if the tracking error associated with an index value of the capital market exceeds certain threshold.</p> <p>It is yet another object of the present invention to provide a computer system for maintaining financial debt instruments that represent positions in one or more capital markets and which generates reports on the return of each financial debt instrument to the investors.</p> <p>These and other objects of the present invention are realized in a specific embodiment of a financial management system incorporating means for implementing, coordinating, supervising, analyzing and reporting upon financial debt instruments designed to track the performance of established capital markets. The financial debt instrument of the present invention comprises a basket of stock shares the return performance of which is representative of a capital market over a predetermined limited period of time. The debt instrument is sold as an Optimal Portfolio Listed Security ("OPALS") which may provide in many jurisdictions tax and other advantages to the investors. The data processing system of the management system of the present invention provides continuous monitoring of the price of the OPALS and reports this price to customers over a communication network.</p>
What is described?	<p>Atkins describes a computer based system for managing a client's personal investments and liabilities that includes access to expert systems that can recommend courses of actions based on the customers goals, forecasts and the rationale(s) programmed into an expert system.</p> <p>Tull describes a system for creating and managing a financial instrument based a portfolio of stocks that mirror an established capital market.</p>
What's missing?	<ol style="list-style-type: none"> <li>1. Methods, systems and/or media for analyzing or managing enterprise financial performance</li> <li>2. A single mention of an intangible elements of value</li> <li>3. Using data from a variety of sources to quantify the impact of intangible elements of value on aspects of enterprise financial performance.</li> </ol>
Objection	<p>The Applicant objects to the statement that that Tull teaches "quantifying the impact of intangible elements of value on aspects of financial performance" as it does not appear to be supported by the evidence referenced in the office action.</p>
Conclusion	<p>The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 33.</p>

<p>Third independent claim</p>	<p>34. (amended) A fiscal management network, comprising:  a plurality of computers connected by a network each with a processor having circuitry to execute instructions; a storage device available to each processor with sequences of instructions stored therein, which when executed cause the processors to:  integrate raw and transformed data from a variety of systems into models that determine the value of the current operation, real options and market sentiment segments of enterprise value by element of value; and  report the value of the elements of value, segments of value and the enterprise.</p>
<p>Context provided by Applicant  (Atkins, column 3 lines 5 – 20)</p>	<p>The present invention is a method and apparatus for effecting at a financial institution an improved personal financial management system incorporating means of implementing, coordinating, supervising, planning, analyzing and reporting upon an array of asset accounts such as investments and liability accounts such as credit facilities. Through a prioritization function, a client specifies his financial objectives, a forecast of economic and financial variables, risk preference and the budgetary constraints to which he is subject. The prioritization function suggests investments and credit facilities to the client to best realize his financial objectives, and may also suggest one or more contractual agreement(s) reflecting a derivative form of financial instrument(s) that may best assist the client in realizing his financial objectives.</p>
<p>Reference cited in Office Action  (Atkins, column 22 lines 50-65)</p>	<p>The system of the invention also provides a client with a variety of standard accounting information which has commonly been used in a business environment but has seldom been appropriately applied to personal financial reporting. For example, the system may provide a client with sources and uses of funds statements, personal balance sheets indicating the market value of assets and liabilities in each category and illustrating the client's net worth, a profit and loss report indicating net income for the period and year to date and an income and expense report comparing actual results to budgeted amounts. Data visualization methods and multimedia computer hardware and software may be used to demonstrate the effects upon an individual client's financial status of an anticipated or an executed transaction.</p> <p>Through the system of the invention, the client can also access a host of ancillary investment news, information, advice, and counseling.</p>
<p>Reference cited in Office Action  (Atkins, column 23 lines 1 – 35)</p>	<p>For information retrieval the data base can be accessed directly by the client in a manner consistent with the appropriate security procedures or it can be accessed by structured query language (SQL) calls or by means of an expert system that interprets text to retrieve news and other data that are of particular interest to the client. Clients of the HOME Account can also receive</p>

	<p>personal financial planning and analysis assistance by means of an interactive expert computer system and direct consultation with financial planners. <b>In the preferred embodiment of the invention an expert system provides integrated financial advice to the client consistent with achieving the client's specific investment objectives subject to budgetary and risk-related constraints. Recent advances in rule, case, fuzzy logic and model based expert systems</b> together with advances in such pattern recognition technologies as neural networks, classifier systems incorporating genetic learning techniques and abductive reasoning tools offer financial institutions the ability to provide their clients with intelligent financial advice at a reduced cost and an enhanced level of reliability over reliance upon account managers. Knowledge based systems offer a convenient and cost effective means of providing integrated planning and analysis services to clients that are consistent with and utilize techniques derived from modern portfolio theory, capital asset pricing models, and operations research methodologies to help the customer realize his financial objectives. In cases where multiple problem solving techniques are required to best realize a client's objectives, a blackboard or other type of expert system is used to properly apply each problem solving technique to the appropriate aspect of the problem and incorporate a form of machine learning. Both stochastic and fuzzy techniques for dynamic multi-objective decision making under uncertainty provide portfolio optimization tools that explicitly integrate considerations of risk and uncertainty in the planning process.</p>
Context provided by Applicant (Atkins, column 23, lines 36 – 40)	<b>Moreover, expert systems incorporating these problem solving methodologies offer full interactive explanatory capabilities so that clients can not only understand the advice given but also the rationale and the reasoning that generated the advice.</b>
Reference cited in Office Action (Atkins column 23, lines 60-65)	In the preferred embodiment of the invention, the financial institution or a data processing firm providing computing services to the financial institution, would maintain a computer system that integrated a variety of different types of computer hardware into an open network computing environment.
Reference cited in Office Action (Atkins column 24, lines 1 - 35)	<p>All aspects of the parallel distributed processing system may communicate with one another in a variety of forms (i.e. voice, data, multimedia etc.). Key hardware components of the system are fault-tolerant. The operating system provides for real-time on-line transaction processing and offers a secure environment for multiple users conducting multitasking. Users may utilize multiple processors in such a distributed computing environment. Compute intensive activities such as use of expert systems, optimization, imaging and multimedia applications may be performed by separate processors or compute servers.</p> <p>All aspects, of the system including hardware and software applications, may transparently communicate and share information with each other. In this way financial institutions may</p>

	<p>provide convenient access to a full range of financial and information services to customers and the financial institutions' personnel. Computerized voice recognition techniques allow customers and the personnel of the financial institution to enter transaction orders into the system and to have their identity confirmed for security purposes. The system advantageously incorporates recent advances in object oriented design in its operating system, communication protocols, and software design.</p> <p>Examples of such system components include workstations by AT&amp;T, NCR, SUN (Sparc Station 2), NeXT, IBM (RS6000) and others. These same companies produce file servers of various processing capacities. Parallel processing DBMS servers from Teradata and open system parallel processing servers from NCR such as the System 3600 offer scalable parallel processing system capacity for expert system support and OLTP. Top End from NCR and Tuxedo/T from AT&amp;T are illustrative transaction processing monitors that may be incorporated into the system.</p>
Reference cited in Office Action (Atkins, column 24, lines 60-65)	The computer system 220 comprises a Central Processing Unit (CPU) 232, Random Access Memory (RAM) 234, Read Only Memory (ROM) 236, on-line 238 and off-line 240 storage and communication and input/output (I/O) ports 242.
Reference cited in Office Action (Atkins, column 5, lines 29-31)	For example, the home owner's total assets, as adjusted to provide the financial institution with a measure of security for its lending, must always be greater than some imposed minimum standard or minimum borrowing power.
Context provided by Applicant (Tull, abstract)	A data processing system and method is disclosed for implementing and control of a financial instrument which is issued for a limited period of time. The instrument is based on an underlying basket of stocks optimally selected to track an established capital market and its price also reflects accrued investment income and maintenance expenses.
Reference cited in Office Action (Tull, column 8, lines 49-59)	FIG. 3 shows in more detail the structure of the data processing system 20 which is designed in accordance with the present invention to administer an OPALS debt instrument. In a preferred embodiment illustrated in FIG. 3, data processing system 20 comprises a processor unit 60, database 70 which stores data about the basket of shares underlying the OPALS and three computer applications: 30 called bids, 40--called status, and 50--termed dcalc. The applications 30, 40 and 50 interact with processor 60 to compute the current price of the OPALS. As shown in FIG. 3, data processing system 20 also receives input from the capital markets which input comprises raw transactions data for each stock.
Reference cited in Office Action (Tull, column 6, lines 6 - 30)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future

	<p>correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.</p> <p>Based on the information from the modeling system 3, financial management structure 8 creates one or more financial debt instruments 10 which are designed to be traded as Optimized Portfolio Listed Securities ("OPALS"). Each OPALS 10 is packaged as a financial debt instrument which is characterized in that it can be traded as a single security and, for a limited period of time which is typically between one and five years, tracks a market index associated with the capital market. During their existence term, OPALS 10 generate income to their holders based on the performance of the underlying shares in accordance with a prespecified payment schedule. Such income is comprised of dividends on the shares in the basket of shares underlying each OPALS 10, proceeds from the sale of rights accruing to such shares, and income received from lending such shares. Upon maturity of the OPALS 10, its holder (a participating investor 5) is entitled to receive the entire basket of shares underlying the OPALS.</p>
<p>Reference cited in Office Action (Tull, see column 7, lines 15 - 65)</p>	<p>This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.</p> <p>In a specific embodiment, modeling system 3 determines the optimal basket of stocks by sorting the stocks of the capital market in a descending order of market values and storing the sequence in a computer memory.</p> <p>For each stock of the portfolio, modeling means 4 then computes the associated volatility or beta factor using well known techniques. Modeling means 4 then stores in a memory (not shown) the beta factor of each individual stock. The list of beta values is then added and divided by the number of all beta values to obtain the average beta value for the stocks in the model basket of shares. If the average beta for the basket of shares is greater than unity, the programming function operated by modeling means 4 will review the portfolio and add or substitute stocks with lower beta factors to bring the average to or less than about 1. This selection of substitute stocks can be made by an operator using the optimization software to select</p>



	<p>the shares to be deleted from or added to the composite of basket of shares to adjust the tracking tolerance. Another step used in the selection of the model portfolio involves analysis of the capitalization of the stocks in the selected portfolio. Capitalization may be defined as the value obtained by multiplying the total number of outstanding shares of a stock by the current price of the stock. Risk evaluation means 6 computes the capitalization of each stock in the model basket, adds them up and divides the result by the number of stocks in the portfolio to obtain the average model capitalization. Risk evaluation means 6 next determines or obtains from an outside source the average capitalization value for the particular market which is being followed and compares the result to the computed capitalization of the model basket. Should there be a discrepancy between the two values which is above a predetermined threshold, the program implemented by means 6 may be directed to substitute either new stocks from the capital market or change the weighing of the stocks represented in the basket.</p>
Reference cited in Office Action (Tull, column 6, lines 50 - 55)	<p>Data processing system 20 continuously monitors the price of the underlying basket of shares using input from a global communications network 9 connected to the capital market place. Based on this information, data processing system 20 computes the aggregate value of the entire underlying basket of shares and the current price of the OPALS 10 by further including the accrued income and the appropriate maintenance expenses.</p>
Reference cited in Office Action (Tull, column 3, lines 20 - 60)	<p>It is an object of the present invention to provide a financial management system to develop and administer a financial debt instrument traded as a listed security to investors desiring to track the performance of a domestic or foreign capital market. Another object of the present invention is to provide a system and method for optimized selection of shares the performance of which is designed to track the performance of the related equity index over a limited period of time.</p> <p>It is another object of the present invention to provide a data processing system for administering information on each share of a selected basket of shares which is representative of a capital market.</p> <p>It is a further object of the present invention to provide data processing means for determining a price for a basket of shares which is packaged as a debt instrument so as to reflect the current aggregate value of the shares and accrued income and expenses associated with all shares in the basket.</p> <p>Yet another object of the present invention is to provide a data processing system and method to rebalance a basket of shares which is representative of a capital market and is designed to track its performance if the tracking error associated with an index value of the capital market exceeds certain threshold.</p> <p>It is yet another object of the present invention to provide a computer system for maintaining financial debt instruments that represent positions in one or more capital markets and which</p>

	<p>generates reports on the return of each financial debt instrument to the investors.</p> <p>These and other objects of the present invention are realized in a specific embodiment of a financial management system incorporating means for implementing, coordinating, supervising, analyzing and reporting upon financial debt instruments designed to track the performance of established capital markets. The financial debt instrument of the present invention comprises a basket of stock shares the return performance of which is representative of a capital market over a predetermined limited period of time. The debt instrument is sold as an Optimal Portfolio Listed Security ("OPALS") which may provide in many jurisdictions tax and other advantages to the investors. The data processing system of the management system of the present invention provides continuous monitoring of the price of the OPALS and reports this price to customers over a communication network.</p>
What is described?	<p>Atkins describes a computer based system for managing a client's personal investments and liabilities that includes access to expert systems that can recommend courses of actions based on the customers goals, forecasts and the rationale(s) programmed into an expert system.</p> <p>Tull describes a system for creating and managing a financial instrument based a portfolio of stocks that mirror an established capital market.</p>
What's missing?	<ol style="list-style-type: none"> <li>1. Methods, networks and/or media for analyzing or managing enterprise financial performance,</li> <li>2. A single mention of real options, market sentiment and/or current operation segments of value, and</li> <li>3. Using data from a variety of sources to quantify the impact of intangible elements of value on aspects of enterprise financial performance.</li> </ol>
Objection	<p>The Applicant objects to the statement that Tull teaches "integrating raw and transformed data from a variety of systems into models that determine the value of the current operation real options market sentiment segments of enterprise value by element of value and reporting the value of the elements of value, segments of value" as it does not appear to be supported by the evidence referenced in the office action.</p>
Conclusion	<p>The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 34.</p>

Fourth independent claim	<p>35. (amended) A fiscal management system, comprising:  a computer with a processor having circuitry to execute instructions; a storage device available to said processor with sequences of instructions stored therein, which when executed cause the processor to:</p> <p>integrate raw and transformed data from a variety of systems into models that determine the value of the current operation, real options and market sentiment segments of enterprise value by element of value; and report the value of the segments of value and the enterprise by element of value.</p>
Context provided by Applicant (Atkins, column 3 lines 5 – 20)	<p><b>The present invention is a method and apparatus for effecting at a financial institution an improved personal financial management system incorporating means of implementing, coordinating, supervising, planning, analyzing and reporting upon an array of asset accounts such as investments and liability accounts such as credit facilities. Through a prioritization function, a client specifies his financial objectives, a forecast of economic and financial variables, risk preference and the budgetary constraints to which he is subject. The prioritization function suggests investments and credit facilities to the client to best realize his financial objectives, and may also suggest one or more contractual agreement(s) reflecting a derivative form of financial instrument(s) that may best assist the client in realizing his financial objectives.</b></p>
Reference cited in Office Action (Atkins, column 22 lines 50-65)	<p>The system of the invention also provides a client with a variety of standard accounting information which has commonly been used in a business environment but has seldom been appropriately applied to personal financial reporting. For example, the system may provide a client with sources and uses of funds statements, personal balance sheets indicating the market value of assets and liabilities in each category and illustrating the client's net worth, a profit and loss report indicating net income for the period and year to date and an income and expense report comparing actual results to budgeted amounts. Data visualization methods and multimedia computer hardware and software may be used to demonstrate the effects upon an individual client's financial status of an anticipated or an executed transaction.</p> <p>Through the system of the invention, the client can also access a host of ancillary investment news, information, advice, and counseling.</p>
Reference cited in Office Action (Atkins, column 23 lines 1 – 35)	<p>For information retrieval the data base can be accessed directly by the client in a manner consistent with the appropriate security procedures or it can be accessed by structured query language (SQL) calls or by means of an expert system that interprets text to retrieve news and other data that are of particular interest to the client. Clients of the HOME Account can also receive</p>

	<p>personal financial planning and analysis assistance by means of an interactive expert computer system and direct consultation with financial planners. <b>In the preferred embodiment of the invention an expert system provides integrated financial advice to the client consistent with achieving the client's specific investment objectives subject to budgetary and risk-related constraints. Recent advances in rule, case, fuzzy logic and model based expert systems</b> together with advances in such pattern recognition technologies as neural networks, classifier systems incorporating genetic learning techniques and abductive reasoning tools offer financial institutions the ability to provide their clients with intelligent financial advice at a reduced cost and an enhanced level of reliability over reliance upon account managers.</p> <p>Knowledge based systems offer a convenient and cost effective means of providing integrated planning and analysis services to clients that are consistent with and utilize techniques derived from modern portfolio theory, capital asset pricing models, and operations research methodologies to help the customer realize his financial objectives. In cases where multiple problem solving techniques are required to best realize a client's objectives, a blackboard or other type of expert system is used to properly apply each problem solving technique to the appropriate aspect of the problem and incorporate a form of machine learning. Both stochastic and fuzzy techniques for dynamic multi-objective decision making under uncertainty provide portfolio optimization tools that explicitly integrate considerations of risk and uncertainty in the planning process.</p>
Context provided by Applicant (Atkins, column 23 lines 36 – 40)	<b>Moreover, expert systems incorporating these problem solving methodologies offer full interactive explanatory capabilities so that clients can not only understand the advice given but also the rationale and the reasoning that generated the advice.</b>
Reference cited in Office Action (Atkins column 23 and 24 lines 1 - 35 and line 60-65)	In the preferred embodiment of the invention, the financial institution or a data processing firm providing computing services to the financial institution, would maintain a computer system that integrated a variety of different types of computer hardware into an open network computing environment.
Reference cited in Office Action (Atkins column 24 lines 1 - 35)	<p>All aspects of the parallel distributed processing system may communicate with one another in a variety of forms (i.e. voice, data, multimedia etc.). Key hardware components of the system are fault-tolerant. The operating system provides for real-time on-line transaction processing and offers a secure environment for multiple users conducting multitasking. Users may utilize multiple processors in such a distributed computing environment. Compute intensive activities such as use of expert systems, optimization, imaging and multimedia applications may be performed by separate processors or compute servers.</p> <p>All aspects, of the system including hardware and software applications, may transparently communicate and share</p>

	<p>information with each other. In this way financial institutions may provide convenient access to a full range of financial and information services to customers and the financial institutions' personnel. Computerized voice recognition techniques allow customers and the personnel of the financial institution to enter transaction orders into the system and to have their identity confirmed for security purposes. The system advantageously incorporates recent advances in object oriented design in its operating system, communication protocols, and software design.</p> <p>Examples of such system components include workstations by AT&amp;T, NCR, SUN (Sparc Station 2), NeXT, IBM (RS6000) and others. These same companies produce file servers of various processing capacities. Parallel processing DBMS servers from Teradata and open system parallel processing servers from NCR such as the System 3600 offer scalable parallel processing system capacity for expert system support and OLTP. Top End from NCR and Tuxedo/T from AT&amp;T are illustrative transaction processing monitors that may be incorporated into the system.</p>
Reference cited in Office Action (Atkins, column 24, lines 60-65)	The computer system 220 comprises a Central Processing Unit (CPU) 232, Random Access Memory (RAM) 234, Read Only Memory (ROM) 236, on-line 238 and off-line 240 storage and communication and input/output (I/O) ports 242.
Reference cited in Office Action (Atkins, column 5 lines 29-31)	For example, the home owner's total assets, as adjusted to provide the financial institution with a measure of security for its lending, must always be greater than some imposed minimum standard or minimum borrowing power.
Context provided by Applicant (Tull, abstract)	A data processing system and method is disclosed for implementing and control of a financial instrument which is issued for a limited period of time. The instrument is based on an underlying basket of stocks optimally selected to track an established capital market and its price also reflects accrued investment income and maintenance expenses.
Reference cited in Office Action (Tull, column 8 lines 49-59)	FIG. 3 shows in more detail the structure of the data processing system 20 which is designed in accordance with the present invention to administer an OPALS debt instrument. In a preferred embodiment illustrated in FIG. 3, data processing system 20 comprises a processor unit 60, database 70 which stores data about the basket of shares underlying the OPALS and three computer applications: 30 called bids, 40--called status, and 50--termed dcalc. The applications 30, 40 and 50 interact with processor 60 to compute the current price of the OPALS. As shown in FIG. 3, data processing system 20 also receives input from the capital markets which input comprises raw transactions data for each stock.
Reference cited in Office Action (Tull, column 6, lines 6 - 30)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the

	<p>performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.</p> <p>Based on the information from the modeling system 3, financial management structure 8 creates one or more financial debt instruments 10 which are designed to be traded as Optimized Portfolio Listed Securities ("OPALS"). Each OPALS 10 is packaged as a financial debt instrument which is characterized in that it can be traded as a single security and, for a limited period of time which is typically between one and five years, tracks a market index associated with the capital market. During their existence term, OPALS 10 generate income to their holders based on the performance of the underlying shares in accordance with a prespecified payment schedule. Such income is comprised of dividends on the shares in the basket of shares underlying each OPALS 10, proceeds from the sale of rights accruing to such shares, and income received from lending such shares. Upon maturity of the OPALS 10, its holder (a participating investor 5) is entitled to receive the entire basket of shares underlying the OPALS.</p>
<p>Reference cited in Office Action (Tull, see column 7 lines 15-65)</p>	<p>This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.</p> <p>In a specific embodiment, modeling system 3 determines the optimal basket of stocks by sorting the stocks of the capital market in a descending order of market values and storing the sequence in a computer memory. For each stock of the portfolio, modeling means 4 then computes the associated volatility or beta factor using well known techniques. Modeling means 4 then stores in a memory (not shown) the beta factor of each individual stock. The list of beta values is then added and divided by the number of all beta values to obtain the average beta value for the stocks in the model basket of shares. If the average beta for the basket of shares is greater than unity, the programming function operated by modeling means 4 will review the portfolio and add or substitute stocks with lower beta factors to bring the average to or less than about 1. This selection of substitute stocks can be made by an operator using the optimization software to select the shares to be deleted from or</p>

	<p>added to the composite of basket of shares to adjust the tracking tolerance.</p> <p>Another step used in the selection of the model portfolio involves analysis of the capitalization of the stocks in the selected portfolio. Capitalization may be defined as the value obtained by multiplying the total number of outstanding shares of a stock by the current price of the stock. Risk evaluation means 6 computes the capitalization of each stock in the model basket, adds them up and divides the result by the number of stocks in the portfolio to obtain the average model capitalization. Risk evaluation means 6 next determines or obtains from an outside source the average capitalization value for the particular market which is being followed and compares the result to the computed capitalization of the model basket. Should there be a discrepancy between the two values which is above a predetermined threshold, the program implemented by means 6 may be directed to substitute either new stocks from the capital market or change the weighing of the stocks represented in the basket.</p>
Reference cited in Office Action (Tull, column 6, lines 50-55)	<p>Data processing system 20 continuously monitors the price of the underlying basket of shares using input from a global communications network 9 connected to the capital market place. Based on this information, data processing system 20 computes the aggregate value of the entire underlying basket of shares and the current price of the OPALS 10 by further including the accrued income and the appropriate maintenance expenses.</p>
Reference cited in Office Action (Tull, column 3, lines 20 - 60)	<p>It is an object of the present invention to provide a financial management system to develop and administer a financial debt instrument traded as a listed security to investors desiring to track the performance of a domestic or foreign capital market.</p> <p>Another object of the present invention is to provide a system and method for optimized selection of shares the performance of which is designed to track the performance of the related equity index over a limited period of time.</p> <p>It is another object of the present invention to provide a data processing system for administering information on each share of a selected basket of shares which is representative of a capital market.</p> <p>It is a further object of the present invention to provide data processing means for determining a price for a basket of shares which is packaged as a debt instrument so as to reflect the current aggregate value of the shares and accrued income and expenses associated with all shares in the basket.</p> <p>Yet another object of the present invention is to provide a data processing system and method to rebalance a basket of shares which is representative of a capital market and is designed to track its performance if the tracking error associated with an index value of the capital market exceeds certain threshold.</p> <p>It is yet another object of the present invention to provide a computer system for maintaining financial debt instruments that represent positions in one or more capital markets and which</p>

	<p>generates reports on the return of each financial debt instrument to the investors.</p> <p>These and other objects of the present invention are realized in a specific embodiment of a financial management system incorporating means for implementing, coordinating, supervising, analyzing and reporting upon financial debt instruments designed to track the performance of established capital markets. The financial debt instrument of the present invention comprises a basket of stock shares the return performance of which is representative of a capital market over a predetermined limited period of time. The debt instrument is sold as an Optimal Portfolio Listed Security ("OPALS") which may provide in many jurisdictions tax and other advantages to the investors. The data processing system of the management system of the present invention provides continuous monitoring of the price of the OPALS and reports this price to customers over a communication network.</p>
What is described?	<p>Atkins describes a computer based system for managing a client's personal investments and liabilities that includes access to expert systems that can recommend courses of actions based on the customers goals, forecasts and the rationale(s) programmed into an expert system.</p> <p>Tull describes a system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.</p>
What's missing?	<ol style="list-style-type: none"> <li>1. Methods, systems and/or media for analyzing or managing enterprise financial performance,</li> <li>2. A single mention of real options, market sentiment and/or current operation segments of value, and</li> <li>3. Using data from a variety of sources to determine the value of the current operation, real option and market sentiment segments of enterprise value by element of value.</li> </ol>
Objection	<p>The Applicant objects to the statement that Tull teaches "integrating raw and transformed data from a variety of systems into models that determine the value of the current operation, real options, market sentiment segments of enterprise value by element of value and reporting the value of the elements of value, segments of value" as it does not appear to be supported by the evidence referenced in the office action.</p>
Conclusion	<p>The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 35.</p>



The second way the October 6, 2004 office action fails to establish a prima facie case of obviousness for the independent claims is that it does not provide any evidence indicating that there was a suggestion in the prior art that the teachings of the theoretical combination of Atkins and Tull would be desirable. When determining obviousness, "the Examiner can satisfy the burden of showing obviousness of the combination 'only by showing some objective teaching in the prior art or individual to combine the relevant teachings of the references.'" (In re Lee, 277 F.3d 1338, 1343 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), citing In re Fritch, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)). More specifically, the office action fails to provide any objective teachings that favor the combination of a system for managing a client's personal investments and liabilities with a system for creating and managing a financial instrument based on a portfolio of stocks. The office action also fails to provide any evidence that there was any suggestion that this theoretical combination could be used to complete any of the functions of the instant application.

The third way the October 6, 2004 office action fails to establish a prima facie case of obviousness for the independent claims is that it does not teach how a system for managing a client's personal investments and liabilities and a system for creating and managing a financial instrument based on a portfolio of stocks could be combined to produce anything useful. It is well established that "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed" (In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000)). In other words, the Examiner has not claimed the manner in which the references would be combined or the reason(s) for doing so.

The review of this aspect of the office action has been complicated by the fact that the Applicant has been unable to locate any of the alleged "teachings" cited in the office action (please see objections above and below) in either of the referenced patents. The Applicant also objects to the use of Tull and Atkins as references as their use implies an equivalence between a basket of financial instruments, personal investments and a commercial enterprise that is not supported by any evidence. The Applicant notes that there are still other ways in which all §103 rejections of the independent claims can be traversed.

It is obvious that all §103 rejections of the claims that are dependent on one of the independent claims can be traversed using the same arguments used previously to traverse the rejection of the independent claims. As detailed below, all dependent claim rejections can be all be traversed in at least one of two additional ways:

1. by noting the references cited in the Office Action can not be combined, modified or used to describe the dependent claim as well as the claim or claims on which it depends, or
2. by noting that the Office Action does not contain any of the evidence required to support some claim rejections. It is well known that under the Administrative Procedures Act substantial evidence is required to support decisions made by the U.S.P.T.O. (In re Gartside 203F.3d 1305, 53 USPQ2d 1769 (Fed Circuit 2000)).

Dependent claim	2. (amended) The computer readable medium of claim 1 wherein the elements of value are selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, vendors and vendor relationships.
Reference cited in Office Action (Atkins, column 28, lines 15-40)	Referring to FIG. 4, once the financial service customer completes the loan documentation 192, the loan origination documentation is checked 194 and the HOME Mortgage is approved or rejected 195, 196. If the mortgage is approved, the scheduled interest and principal payments are determined 197 and input into the mortgage service system so that continuous real time verification and cross-verification can be performed to detect any irregularities or delinquencies in payments 198. The payments can comprise fixed or variable amortization. In servicing the HOME Mortgage, the outstanding balances of the HOME Mortgage are processed in real time and compared to the total value of Home Owners Mortgageable Equity (hereinafter called "HOMEquity") 199. (HOMEquity equals NET plus the net fair market appraisal value for purposes of collateralization of the client's home(s)). The adequacy or inadequacy of security for the HOME Mortgage 200, must be determined. The required interest payments received compared to those scheduled at the time of the origination of the HOME Mortgage 201 and as subsequently revised, must be calculated. The updated required amount of principal amortization payments or additional alternative investment required must be calculated and compared to the amounts received 202. Updated-documentation on asset and liability holdings and valuations must be generated 203. In addition, other variables must be periodically calculated and verified to satisfy applicable regulatory authorities and to prevent unauthorized transfers or creation of debit balances in excess of applicable credit limits.
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems and a mortgage processing system
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 1, and</li> <li>2. Alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, vendors and vendor relationships.</li> </ol>
Objection	The Applicant objects to the statement that "Atkins discloses wherein the elements of value are selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, vendors and vendor relationships" as it does not appear to be supported by the cited references.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 2.

Dependent claim	3. (amended) The computer readable medium of claim 1 wherein the variety of data sources includes advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, estimating systems, intellectual property management systems, process management systems, supply chain management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, purchasing systems, web site systems, the Internet, external databases, user input and combinations thereof.
Reference cited in Office Action (Atkins, column 22, lines 50-65)	The system of the invention also provides a client with a variety of standard accounting information which has commonly been used in a business environment but has seldom been appropriately applied to personal financial reporting. For example, the system may provide a client with sources and uses of funds statements, personal balance sheets indicating the market value of assets and liabilities in each category and illustrating the client's net worth, a profit and loss report indicating net income for the period and year to date and an income and expense report comparing actual results to budgeted amounts. Data visualization methods and multimedia computer hardware and software may be used to demonstrate the effects upon an individual client's financial status of an anticipated or an executed transaction.
Reference cited in Office Action (Atkins, column 23, lines 1-40)	Through the system of the invention, the client can also access a host of ancillary investment news, information, advice, and counseling. In particular, a client can access a current news and information data base such as Reuters, Telekurs, Telerate, Dow Jones News Retrieval.TM., The Source.TM. and Compuserve.TM. or other news and data services. For information retrieval the data base can be accessed directly by the client in a manner consistent with the appropriate security procedures or it can be accessed by structured query language (SQL) calls or by means of an expert system that interprets text to retrieve news and other data that are of particular interest to the client. Clients of the HOME Account can also receive personal financial planning and analysis assistance by means of an interactive expert computer system and direct consultation with financial planners. In the preferred embodiment of the invention an expert system provides integrated financial advice to the client consistent with achieving the client's specific investment objectives subject to budgetary and risk-related constraints. Recent advances in rule, case, fuzzy logic and model based expert systems together with advances in such pattern recognition technologies as neural networks, classifier systems incorporating genetic learning techniques and

	<p>abductive reasoning tools offer financial institutions the ability to provide their clients with intelligent financial advice at a reduced cost and an enhanced level of reliability over reliance upon account managers. Knowledge based systems offer a convenient and cost effective means of providing integrated planning and analysis services to clients that are consistent with and utilize techniques derived from modern portfolio theory, capital asset pricing models, and operations research methodologies to help the customer realize his financial objectives. In cases where multiple problem solving techniques are required to best realize a client's objectives, a blackboard or other type of expert system is used to properly apply each problem solving technique to the appropriate aspect of the problem and incorporate a form of machine learning. Both stochastic and fuzzy techniques for dynamic multiobjective decision making under uncertainty provide portfolio optimization tools that explicitly integrate considerations of risk and uncertainty in the planning process. Moreover, expert systems incorporating these problem solving methodologies offer full interactive explanatory capabilities so that clients can not only understand the advice given but also the rationale and the reasoning that generated the advice.</p>
<p>Reference cited in Office Action (Atkins, column 24, lines 5 - 20)</p>	<p>Key hardware components of the system are fault-tolerant. The operating system provides for real-time on-line transaction processing and offers a secure environment for multiple users conducting multitasking. Users may utilize multiple processors in such a distributed computing environment. Compute intensive activities such as use of expert systems, optimization, imaging and multimedia applications may be performed by separate processors or compute servers. All aspects, of the system including hardware and software applications, may transparently communicate and share information with each other. In this way financial institutions may provide convenient access to a full range of financial and information services to customers and the financial institutions' personnel. Computerized voice recognition techniques allow customers and the personnel of the financial institution to enter transaction orders into the system and to have their identity confirmed for security purposes.</p>
<p>What is described?</p>	<p>A computer based system for managing a client's personal investments and liabilities that includes access to expert systems and a mortgage processing system</p>
<p>What's missing?</p>	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 1, and</li> <li>2. advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, estimating systems, intellectual property management systems, process management systems, supply chain management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems,</li> </ol>

	inventory systems, invoicing systems, payroll systems, purchasing systems, web site systems, the Internet, external databases and combinations thereof
Objection	The Applicant objects to the statement that "Atkins discloses wherein the variety of data sources includes advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, estimating systems, intellectual property management systems, process management systems, supply chain management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, purchasing systems, web site systems, the Internet, external databases, user input and combinations thereof" as it does not appear to be supported by the references cited in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 3.

Dependent claim	4. (amended) The computer readable medium of claim 1 where an enterprise is defined by a single product, a group of products, a division or an entire company.
Reference cited in Office Action (Atkins, column 3, lines 6-11)	The present invention is a method and apparatus for effecting at a financial institution an improved personal financial management system incorporating means of implementing, coordinating, supervising, planning, analyzing and reporting upon an array of asset accounts such as investments and liability accounts such as credit facilities.
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems
What's missing?	1. See "what's missing" for claim 1, and 2. An enterprise that is defined by a single product, a group of products, a division or an entire company.
Objection	The Applicant objects to the statement that "Atkins discloses where an enterprise is defined by a single product, a group of products, a division or an entire company" as it does not appear to be supported by the cited references.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 4.

Dependent claim	5. (amended) The computer readable medium of claim 1 wherein the aspects of enterprise financial performance include one or more of the following revenue, expense, capital change, current operation value, real option value, market sentiment value and business value.
Reference cited in Office Action (Atkins, column 5, line 30)	Calculation of adjusted total assets requires the financial institution to determine the current value of each asset and multiply it by its current loan to value ratio.
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems and calculation of a home owner's total assets.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 1, and</li> <li>2. Aspects of enterprise financial performance include one or more of the following revenue, expense, capital change, current operation value, real option value, market sentiment value and business value.</li> </ol>
Objection	The Applicant objects to the statement that Atkins discloses wherein the aspects of enterprise financial performance include one or more of the following revenue, expense, capital change, current operation value, real option value, market sentiment value and business value as it does not appear to be supported by the cited references.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 5.

Dependent claim	6. (amended) The computer readable medium of claim 1 where the elements of value are comprised of items that may be grouped into sub-elements of value for more detailed analysis.
Reference cited in Office Action (Tull, column 7, lines 15-60)	<p>This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.</p> <p>In a specific embodiment, modeling system 3 determines the optimal basket of stocks by sorting the stocks of the capital market in a descending order of market values and storing the sequence in a computer memory. For each stock of the</p>

	<p>portfolio, modeling means 4 then computes the associated volatility or beta factor using well known techniques. Modeling means 4 then stores in a memory (not shown) the beta factor of each individual stock. The list of beta values is then added and divided by the number of all beta values to obtain the average beta value for the stocks in the model basket of shares. If the average beta for the basket of shares is greater than unity, the programming function operated by modeling means 4 will review the portfolio and add or substitute stocks with lower beta factors to bring the average to or less than about 1. This selection of substitute stocks can be made by an operator using the optimization software to select the shares to be deleted from or added to the composite of basket of shares to adjust the tracking tolerance.</p> <p>Another step used in the selection of the model portfolio involves analysis of the capitalization of the stocks in the selected portfolio. Capitalization may be defined as the value obtained by multiplying the total number of outstanding shares of a stock by the current price of the stock. Risk evaluation means 6 computes the capitalization of each stock in the model basket, adds them up and divides the result by the number of stocks in the portfolio to obtain the average model capitalization. Risk evaluation means 6 next determines or obtains from an outside source the average capitalization value for the particular market which is being followed and compares the result to the computed capitalization of the model basket. Should there be a discrepancy between the two values which is above a predetermined threshold, the program implemented by means 6 may be directed to substitute either new stocks from the capital market or change the weighing of the stocks represented in the basket.</p>
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 1, and</li> <li>2. Elements of value that are comprised of items that may be grouped into sub-elements of value for more detailed analysis.</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches the use elements of value that are comprised of items that may be grouped into sub-elements of value for more detailed analysis" as it does not appear supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 5.



Dependent claim	7. (amended) The computer readable medium of claim 1 where the data includes historical data and forecast data.
Reference cited in Office Action (Atkins, column 37, lines 15-19)	The forecasted values are calculated utilizing an econometric analysis technique which is based, at least partially, on historical data.
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems that uses historical and forecast data.
What's missing?	1. See "what's missing" for claim 1.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 7.

Dependent claim	8. (amended) The computer readable medium of claim 1 where the data includes transaction data, geospatial data, text data and linkage data.
Reference cited in Office Action (Atkins, see column 24, lines 1-65)	<p>All aspects of the parallel distributed processing system may communicate with one another in a variety of forms (i.e. voice, data, multimedia etc.). Key hardware components of the system are fault-tolerant. The operating system provides for real-time on-line transaction processing and offers a secure environment for multiple users conducting multitasking. Users may utilize multiple processors in such a distributed computing environment. Compute intensive activities such as use of expert systems, optimization, imaging and multimedia applications may be performed by separate processors or compute servers. All aspects, of the system including hardware and software applications, may transparently communicate and share information with each other. In this way financial institutions may provide convenient access to a full range of financial and information services to customers and the financial institutions' personnel. Computerized voice recognition techniques allow customers and the personnel of the financial institution to enter transaction orders into the system and to have their identity confirmed for security purposes. The system advantageously incorporates recent advances in object oriented design in its operating system, communication protocols, and software design.</p> <p>Examples of such system components include workstations by AT&amp;T, NCR, SUN (Sparc Station 2), NeXT, IBM (RS6000) and others. These same companies produce file servers of various processing capacities. Parallel processing DBMS servers from Teradata and open system parallel processing servers from NCR such as the System 3600 offer scalable parallel processing system capacity for expert system support and OLTP. Top End from NCR and Tuxedo/T from AT&amp;T are illustrative transaction processing monitors that may be incorporated into the system. Referring to FIG. 2, the HOME Account system illustratively</p>

	<p>comprises a central computer 220, which may be a server, a minicomputer or mainframe connected to a plurality of terminal workstations, personal computers (PC) or minicomputers 222, 224, 226, 228, 230. The central computer 200 stores the HOME Account information as well as processes and updates the HOME Account components. The personal workstations, computers or low-end minicomputers may be located at branch offices 224, 226 of the financial institution, at the desk of the HOME Account manager 228, HOME Account supervisor 230 and at the home of the client 222. These computers may act as a terminal to the central computer or any one of the servers and can communicate with and share data and applications with all other aspects of the system so as to record and store reports issued by the system during processing and may perform local processing of information particular to the user of the personal computer workstation. For example, the HOME Account manager may have a workstation PC at his desk through which the manager can communicate with all other aspects of the system, receive client reports from the central computer and perform types of personal financial planning and analysis on the HOME Account that need not typically be performed on the central computer.</p> <p>The computer system 220 comprises a Central Processing Unit (CPU) 232, Random Access Memory (RAM) 234, Read Only Memory (ROM) 236, on-line 238 and off-line 240 storage and communication and input/output (I/O) ports 242.</p> <p>The I/O ports 242 provide the means for communications with the client, networks and other financial systems and services 242. For example, the system may connect to a network to access news or financial information such as stock prices, or communicate.</p>
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems that uses historical and forecast data.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 1, and</li> <li>2. data that includes transaction data, geospatial data, text data and linkage data.</li> </ol>
Objection	The Applicant objects to the statement that "Atkins discloses where the data includes transaction data, geospatial data, text data and linkage data" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 8.

Dependent claim	9. (amended) The computer readable medium of claim 1 where the element quantifications are selected from the group consisting of item performance indicators, composite variables; vectors, predictive models, element rankings, option discount rates, valuations and combinations thereof.
Reference cited in Office Action (Tull, column 2, lines 1 – 15)	Among the various investment options, significant popularity in last years have achieved the mutual funds which offer a variety of investment options tailored to specific customer needs. Different funds are designed to invest in particular types of stocks, in specific industry sectors, or track the performance of broader market indicators. Some funds offer income which is free of federal, state or local taxes, dependent on the residence of the investors. Mutual funds are particularly attractive because they provide the investors with the opportunity to participate in the capital markets for a relatively low fee compared to a direct investment in stocks. These investors' fees are in part used to finance research directed to selecting a specific investment portfolio for each fund.
Reference cited in Office Action (Tull, column 6, lines 6 – 15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull, column 3, lines 19 – 21)	It is an object of the present invention to provide a financial management system to develop and administer a financial debt instrument traded as a listed security to investors desiring to track the performance of a domestic or foreign capital market.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 1, and</li> <li>2. item performance indicators, composite variables; vectors, predictive models, element rankings, option discount rates, valuations</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches where the element quantifications are selected from the group consisting of item performance indicators, composite variables; vectors, predictive models, element rankings, option discount rates, valuations and combinations thereof" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 9.

Dependent claim	10. (amended) The computer readable medium of claim 9 where the item performance indicators reflect element impact on one or more components of value.
Reference cited in Office Action (Tull, column 2, lines 1 – 15)	Among the various investment options, significant popularity in last years have achieved the mutual funds which offer a variety of investment options tailored to specific customer needs. Different funds are designed to invest in particular types of stocks, in specific industry sectors, or track the performance of broader market indicators. Some funds offer income which is free of federal, state or local taxes, dependent on the residence of the investors. Mutual funds are particularly attractive because they provide the investors with the opportunity to participate in the capital markets for a relatively low fee compared to a direct investment in stocks. These investors' fees are in part used to finance research directed to selecting a specific investment portfolio for each fund.
Reference cited in Office Action (Tull, column 6, lines 6 – 15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull, column 3, lines 19 – 21)	It is an object of the present invention to provide a financial management system to develop and administer a financial debt instrument traded as a listed security to investors desiring to track the performance of a domestic or foreign capital market.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 9, and</li> <li>2. item performance indicators that reflect element impact on one or more components of value</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches anything about item performance indicators that reflect element impact on one or more components of value" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 10.

Dependent claim	11. (amended) The computer readable medium of claim 9 where item performance indicators are selected from the group consisting of ratios, trends, summaries, time lagged values, rates of change, patterns, geospatial measures, linkage data, text counts and averages.
Reference cited in Office Action (Tull, column 6, lines 6 – 15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull, column 2, lines 1 – 15)	Among the various investment options, significant popularity in last years have achieved the mutual funds which offer a variety of investment options tailored to specific customer needs. Different funds are designed to invest in particular types of stocks, in specific industry sectors, or track the performance of broader market indicators. Some funds offer income which is free of federal, state or local taxes, dependent on the residence of the investors. Mutual funds are particularly attractive because they provide the investors with the opportunity to participate in the capital markets for a relatively low fee compared to a direct investment in stocks. These investors' fees are in part used to finance research directed to selecting a specific investment portfolio for each fund.
Reference cited in Office Action (Tull, column 7, lines 15 – 30)	This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 9, and</li> <li>2. item performance indicators selected from the group consisting of ratios, trends, summaries, time lagged values, rates of change, patterns, geospatial measures, linkage data, text counts and averages.</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches about

	item performance indicators selected from the group consisting of ratios, trends, summaries, time lagged values, rates of change, patterns, geospatial measures, linkage data, text counts and averages" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 11.

Dependent claim	12. (amended) The computer readable medium of claim 9 wherein item performance indicators are selected using predictive models from the group consisting of neural networks; regression models, regression trees; generalized autoregressive conditional heteroskedasticity (GARCH), projection pursuit regression; generalized additive model (GAM); redundant regression network; rough-set analysis; Naïve Bayes Regression, linear regression; support vector, stepwise regression and multivalent models.
Reference cited in Office Action (Atkins, column 23, lines 10 – 40)	In the preferred embodiment of the invention an expert system provides integrated financial advice to the client consistent with achieving the client's specific investment objectives subject to budgetary and risk-related constraints. Recent advances in rule, case, fuzzy logic and model based expert systems together with advances in such pattern recognition technologies as neural networks, classifier systems incorporating genetic learning techniques and abductive reasoning tools offer financial institutions the ability to provide their clients with intelligent financial advice at a reduced cost and an enhanced level of reliability over reliance upon account managers. Knowledge based systems offer a convenient and cost effective means of providing integrated planning and analysis services to clients that are consistent with and utilize techniques derived from modern portfolio theory, capital asset pricing models, and operations research methodologies to help the customer realize his financial objectives. In cases where multiple problem solving techniques are required to best realize a client's objectives, a blackboard or other type of expert system is used to properly apply each problem solving technique to the appropriate aspect of the problem and incorporate a form of machine learning. Both stochastic and fuzzy techniques for dynamic multiobjective decision making under uncertainty provide portfolio optimization tools that explicitly integrate considerations of risk and uncertainty in the planning process. Moreover, expert systems incorporating these problem solving methodologies offer full interactive explanatory capabilities so that clients can not only understand the advice given but also the rationale and the reasoning that generated the advice.
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems that uses historical and forecast data.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 9, and</li> <li>2. selecting item performance indicators using</li> </ol>

	predictive models from the group consisting of neural networks; regression models, regression trees; generalized autoregressive conditional heteroskedasticity (LARCH), projection pursuit regression; generalized additive model (GAM); redundant regression network; rough-set analysis; Naive Bayes Regression, linear regression; support vector, stepwise regression and multivalent models.
Objection	The Applicant objects to the statement that "Atkins discloses wherein item performance indicators are selected using predictive models from the group consisting of neural networks; regression models, regression trees; generalized autoregressive conditional heteroskedasticity (LARCH), projection pursuit regression; generalized additive model (GAM); redundant regression network; rough-set analysis; Naive Bayes Regression, linear regression; support vector, stepwise regression and multivalent models" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 12.

Dependent claim	13. (amended) The computer readable medium of claim 9 wherein composite variables are mathematical or logical combinations of causal item performance indicators and item variables by element.
Reference cited in Office Action (Atkins, column 35, lines 11 – 18)	Once these variables have been calculated, the central computer determines whether HOME <sub>EPW</sub> is greater than the Management Imposed Minimum HOME <sub>EPW</sub> (MIM) and whether the revised estimated future HOME Borrowing Power (Revised $E(\text{HOME}_{EPW}.\text{sub}.t+n \cdot \text{verline}.\text{phi}.\text{sub}.t)$ ) is greater than what the HOME Borrowing Power would be if the transaction is not entered into ( $E(\text{HOME}_{EPW}.\text{sub}.t+n \cdot \text{verline}.\text{phi}.\text{sub}.t)$ ).
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems that uses historical and forecast data.
What's missing?	1. See "what's missing" for claim 9, and 2. composite variables that are mathematical or logical combinations of causal item performance indicators and item variables by element.
Objection	The Applicant objects to the statement that "Atkins discloses wherein composite variables are mathematical or logical combinations of causal item performance indicators and item variables by element" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 13.

Dependent claim	14. (amended) The computer readable medium of claim 9 wherein vectors summarize causal item performance indicators, item variables and composite variables by element of value.
Reference cited in Office Action	None
What is described?	Nothing
What's missing?	1. See "what's missing" for claim 9, and 2. Evidence to support the expressed opinion.
Objection	The Applicant objects to the statement that "vectors summarizing causal item performance indicators, item variables and composite variables by element of value are commonly used in determining values of an asset or a portfolio" as it does not appear to be supported by any evidence.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 14. The relevance of the unsupported opinion is also not clear.

Dependent claim	15. (amended) The computer readable medium of claim 9 wherein vectors are created using models from the group consisting of Tetrad, Minimum Message Length, LaGrange, Bayesian and path analysis.
Reference cited in Office Action	None
What is described?	Nothing
What's missing?	1. See "what's missing" for claim 9, and 2. Evidence to support the expressed opinion.
Objection	The Applicant objects to the statement that "models are commonly used in the art for valuing and optimization of assets stocks, portfolio, or and creating classes or column or association and vectors would have been an obvious part of the process asset optimization" as it does not appear to be supported by any evidence.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 15. The relevance of the unsupported opinion is also not clear.



Dependent claim	16. (amended) The method of claim 9 wherein data envelopment analysis (DEA) analysis is used to identify the relative ranking of the enterprise elements of value for the value relevant indicators identified by the business value predictive models.
Reference cited in Office Action (Tull, column 6, lines 6 -15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull, column 7, lines 15 - 25)	This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 9, and</li> <li>2. using data envelopment analysis (DEA) analysis to identify the relative ranking of the enterprise elements of value for the value relevant indicators identified by the business value predictive models.</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches wherein data envelopment analysis (DEA) analysis is used to identify the relative ranking of the enterprise elements of value for the value relevant indicators identified by the business value predictive models taught" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 16.

Dependent claim	17. (amended) The method of claim 9 wherein the real option discount rates are a function of the relative ranking of the enterprise elements of value that support the real option.
Reference cited in Office Action (Atkins, column 2, lines 45 – 60)	Another relatively recent approach is offered by the Standard & Poor's Depositary Receipts.TM. ("SPDRs"). The SPDRs are financial instruments devised to package equity into a single listed security. They represent ownership in a SPDR Trust, a unit investment trust which holds a portfolio of common stocks that tracks the price performance and dividend yield of the S&P 500 Index. SPDRs are like open end unit trust that is rebalanced daily to the S&P 500 Index and may trade at a premium or discount to the S&P 500 futures. SPDRs may be held like a stock for a long time and entitle the holder to quarterly cash distributions corresponding to the dividends that accrue to the S&P stocks in the underlying portfolio, less expenses. While the SPDRs provides desirable diversification and convenience, they are only offered in one capital market.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 9, and</li> <li>2. using the relative ranking of the enterprise elements of value that support the real options to calculate real option discount rates.</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches including the real option discount rates are a function of the relative ranking of the enterprise elements of value that support the real option" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 17.

Dependent claim	18. (amended) The computer readable medium of claim 9 wherein the predictive models identify the relative contribution by element of value to the components of value and business value.
Reference cited in Office Action (Tull, column 6, lines 6 – 15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull, column 7, lines 15 – 25)	This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 9, and</li> <li>2. using the relative ranking of the enterprise elements of value that support the real options to calculate real option discount rates.</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches that predictive models identify the relative contribution by element of value to the components of value and business value taught" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 18.

Dependent claim	19. (amended) The computer readable medium of claim 18 where the predictive models use item performance indicators, composite variables or vectors by element as inputs.
Reference cited in Office Action (Tull, column 6, lines 6 – 15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull, column 7, lines 15 – 25)	This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.
Reference cited in Office Action (Tull, column 2, lines 1 – 14)	Among the various investment options, significant popularity in last years have achieved the mutual funds which offer a variety of investment options tailored to specific customer needs. Different funds are designed to invest in particular types of stocks, in specific industry sectors, or track the performance of broader market indicators. Some funds offer income which is free of federal, state or local taxes, dependent on the residence of the investors. Mutual funds are particularly attractive because they provide the investors with the opportunity to participate in the capital markets for a relatively low fee compared to a direct investment in stocks. These investors' fees are in part used to finance research directed to selecting a specific investment portfolio for each fund.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 18, and</li> <li>2. using the relative ranking of the enterprise elements of value that support the real options to calculate real option discount rates.</li> </ol>
Objection	The Applicant objects to the statement that "Atkins teaches where the predictive models use item performance indicators,

	composite variables or vectors by element as inputs" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 19.

Dependent claim	20. (amended) The computer readable medium of claim 18 wherein the type of predictive model input that is used in a model is determined in part by the level of interaction between the elements of value.
Reference cited in Office Action (Tull, column 6, lines 6 – 15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull, column 7, lines 15 – 25)	This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.
Reference cited in Office Action (Tull, column 2, lines 1 – 14)	Among the various investment options, significant popularity in last years have achieved the mutual funds which offer a variety of investment options tailored to specific customer needs. Different funds are designed to invest in particular types of stocks, in specific industry sectors, or track the performance of broader market indicators. Some funds offer income which is free of federal, state or local taxes, dependent on the residence of the investors. Mutual funds are particularly attractive because they provide the investors with the opportunity to participate in the capital markets for a relatively low fee compared to a direct investment in stocks. These investors' fees are in part used to finance research directed to selecting a specific investment portfolio for each fund.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital

	market.
What's missing?	<p>3. See "what's missing" for claim 18, and</p> <p>4. using the relative ranking of the enterprise elements of value that support the real options to calculate real option discount rates.</p>
Objection	The Applicant objects to the statement that "Tull teaches that the predictive model input that is used in a model is determined in part by the level of interaction between the elements of value" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 20.

Dependent claim	21. (amended) The computer readable medium of claim 18 where the predictive models are selected from the group consisting of neural networks; regression models, regression trees; generalized autoregressive conditional heteroskedasticity (GARCH), projection pursuit regression; generalized additive model (GAM); redundant regression network; rough-set analysis; Naïve Bayes Regression, linear regression; support vector computer readable medium, stepwise regression and multivalent models.
Reference cited in Office Action (Atkins, column 23, lines 10 - 40)	In the preferred embodiment of the invention an expert system provides integrated financial advice to the client consistent with achieving the client's specific investment objectives subject to budgetary and risk-related constraints. Recent advances in rule, case, fuzzy logic and model based expert systems together with advances in such pattern recognition technologies as neural networks, classifier systems incorporating genetic learning techniques and abductive reasoning tools offer financial institutions the ability to provide their clients with intelligent financial advice at a reduced cost and an enhanced level of reliability over reliance upon account managers. Knowledge based systems offer a convenient and cost effective means of providing integrated planning and analysis services to clients that are consistent with and utilize techniques derived from modern portfolio theory, capital asset pricing models, and operations research methodologies to help the customer realize his financial objectives. In cases where multiple problem solving techniques are required to best realize a client's objectives, a blackboard or other type of expert system is used to properly apply each problem solving technique to the appropriate aspect of the problem and incorporate a form of machine learning. Both stochastic and fuzzy techniques for dynamic multiobjective decision making under uncertainty provide portfolio optimization tools that explicitly integrate considerations of risk and uncertainty in the planning process. Moreover, expert systems incorporating these problem solving methodologies offer full interactive explanatory capabilities so that clients can not only understand the advice given but also the rationale and the

	reasoning that generated the advice.
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems and calculation of a home owner's total assets.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 18, and</li> <li>2. the selection of item performance indicators using predictive models from the group consisting of neural networks; regression models, regression trees; generalized autoregressive conditional heteroskedasticity (GARCH), projection pursuit regression; generalized additive model (GAM); redundant regression network; rough-set analysis; Naive Bayes Regression, linear regression; support vector computer readable medium, stepwise regression and multivalent models.</li> </ol>
Objection	The Applicant objects to the statement that "Atkins discloses wherein item performance indicators are selected using predictive models from the group consisting of neural networks; regression models, regression trees; generalized autoregressive conditional heteroskedasticity (GARCH), projection pursuit regression; generalized additive model (GAM); redundant regression network; rough-set analysis; Naive Bayes Regression, linear regression; support vector computer readable medium, stepwise regression and multivalent models" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 21.

Dependent claim	22. (amended) The computer readable medium of claim 19 wherein the contribution by element of value to a component of value or business value is determined by the net of the direct element impact and the element impact on the other elements of value.
Reference cited in Office Action (Atkins, column 5, lines 23 – 45)	At the same time, origination, administration and servicing of the HOME Account of the present invention involves many more considerations than a conventional mortgage loan. For example, the home owner's total assets, as adjusted to provide the financial institution with a measure of security for its lending, must always be greater than some imposed minimum standard or minimum borrowing power. Calculation of adjusted total assets requires the financial institution to determine the current value of each asset and multiply it by its current loan to value ratio. In practice, these values must be calculated and checked periodically to correctly reflect changes in the value or quantity of any asset or liability which is part of the system. Thus, for example, if borrowing is made against the cash value of the client's insurance policy or if the value of the client's bond portfolio changes, the asset values may need to be re-calculated, a new borrowing power determined and this new borrowing power compared to the predetermined minimum borrowing power. If the asset value is less than the minimum, the client must modify one or more of his account components e.g. decrease his liabilities or increase the value of an asset account, to bring the total value into the permissible range. A customer information file stored in a relational or object oriented data base management system may be used to facilitate all credit checking activities of the system of the present invention.
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems and calculation of a home owner's total assets.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 19, and</li> <li>2. Determining the contribution by element of value to a component of value or business value by netting the direct element impact and the element impact on the other elements of value.</li> </ol>
Objection	The Applicant objects to the statement that "Atkins discloses wherein the contribution by element of value to a component of value or business value is determined by the net of the direct element impact and the element impact on the other elements of value" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 22.



Dependent claim	23. (amended) The computer readable medium of claim 9 wherein the valuations identify the contributions by element of value to the group consisting of current operation value, real option value, market sentiment value, business value and combinations thereof.
Reference cited in Office Action (Tull, column 6, lines 5 – 15)	Modeling system 3 selects an optimized basket of shares which is representative of a particular capital market. This selection is done using a programming function which receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the basket with the index of the market to ensure that they will track the market index closely.
Reference cited in Office Action (Tull, column 6, lines 50 – 56)	Data processing system 20 continuously monitors the price of the underlying basket of shares using input from a global communications network 9 connected to the capital market place. Based on this information, data processing system 20 computes the aggregate value of the entire underlying basket of shares and the current price of the OPALS 10 by further including the accrued income and the appropriate maintenance expenses.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 9, and</li> <li>2. valuations that identify the contributions by element of value to the group consisting of current operation value, real option value, market sentiment value, business value and combinations thereof.</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches where the valuations identify the contributions by element of value to the group consisting of current operation value, real option value, market sentiment value, business value and combinations thereof" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 23.

Dependent claim	24. (amended) The computer readable medium of claim 23 wherein the current operation value and market sentiment value are calculated using the company cost of capital.
Reference cited in Office Action (Tull, column 7, line 50)	Another step used in the selection of the model portfolio involves analysis of the capitalization of the stocks in the selected portfolio. Capitalization may be defined as the value obtained by multiplying the total number of outstanding shares of a stock by the current price of the stock.
Reference cited in Office Action (Tull, column 6, line 50 - 55)	Data processing system 20 continuously monitors the price of the underlying basket of shares using input from a global communications network 9 connected to the capital market place. Based on this information, data processing system 20 computes the aggregate value of the entire underlying basket of shares and the current price of the OPALS 10 by further including the accrued income and the appropriate maintenance expenses.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 23, and</li> <li>2. using the company cost of capital to calculate the current operation value and market sentiment value.</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches using the company cost of capital to calculate the current operation value and market sentiment value" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 24.

Dependent claim	25. (amended) The computer readable medium of claim 23 wherein the enterprise may not have a current operation, real option or market sentiment segment to value.
Reference cited in Office Action	None
What is described?	Nothing – no evidence was presented
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 23, and</li> <li>2. Evidence to support the expressed opinion.</li> </ol>
Objection	The Applicant objects to the statement that "an enterprise may not have a current operation, real option or market sentiment segment to value is old and well known in the art because they all represent the right to buy and sell property that is granted in exchange for an agreed amount within a period of time" as it does not appear to be supported by any evidence.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 25.

Dependent claim	26. (amended) The computer readable medium of claim 23 wherein the business value by element of value is calculated by summing the contributions by element to the combination of current operation, real option and market sentiment values that are present in the enterprise.
Reference cited in Office Action (Atkins, column 5, lines 25-35)	At the same time, origination, administration and servicing of the HOME Account of the present invention involves many more considerations than a conventional mortgage loan. For example, the home owner's total assets, as adjusted to provide the financial institution with a measure of security for its lending, must always be greater than some imposed minimum standard or minimum borrowing power. Calculation of adjusted total assets requires the financial institution to determine the current value of each asset and multiply it by its current loan to value ratio. In practice, these values must be calculated and checked periodically to correctly reflect changes in the value or quantity of any asset or liability which is part of the system.
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems and calculation of a home owner's total assets.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 23, and</li> <li>2. Calculating business value by element of value by summing the contributions by element to the combination of current operation, real option and market sentiment values that are present in the enterprise.</li> </ol>
Objection	The Applicant objects to the statement that "Atkins discloses wherein the business value by element of value is calculated by summing the contributions by element to the combination of current operation, real option and market sentiment values that are present in the enterprise" as it does not appear to be supported by the evidence cited in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 26.

Dependent claim	27. (amended) The computer readable medium of claim 23 where the current operation segment of value is comprised of a revenue component of value, optional expense components of value and optional capital change components of value.
Reference cited in Office Action	None
What is described?	Nothing – no evidence was presented
What's missing?	1. See "what's missing" for claim 23, and 2. Evidence to support the Examiner's opinion.
Objection	The Applicant objects to the statement that "a revenue component of value, optional expense components of value and optional capital change components of value are all old and well known in the art because they all represent values which may be part of an institution total assets and can be part of the information used to determine total asset value that institution" as it is not supported by any evidence.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 27.

Dependent claim	<p>28. (amended) The computer readable medium of claim 23 wherein the current operation value is calculated by summing the product of the net contribution by element to the components of value identified by component predictive models and the capitalized value of the components of value that are present in the enterprise current operation.</p>
Reference cited in Office Action (Tull, column 7, lines 15-65)	<p>This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.</p> <p>In a specific embodiment, modeling system 3 determines the optimal basket of stocks by sorting the stocks of the capital market in a descending order of market values and storing the sequence in a computer memory.</p> <p>For each stock of the portfolio, modeling means 4 then computes the associated volatility or beta factor using well known techniques. Modeling means 4 then stores in a memory (not shown) the beta factor of each individual stock. The list of beta values is then added and divided by the number of all beta values to obtain the average beta value for the stocks in the model basket of shares. If the average beta for the basket of shares is greater than unity, the programming function operated by modeling means 4 will review the portfolio and add or substitute stocks with lower beta factors to bring the average to or less than about 1. This selection of substitute stocks can be made by an operator using the optimization software to select the shares to be deleted from or added to the composite of basket of shares to adjust the tracking tolerance.</p> <p>Another step used in the selection of the model portfolio involves analysis of the capitalization of the stocks in the selected portfolio. Capitalization may be defined as the value obtained by multiplying the total number of outstanding shares of a stock by the current price of the stock. Risk evaluation means 6 computes the capitalization of each stock in the model basket, adds them up and divides the result by the number of stocks in the portfolio to obtain the average model capitalization. Risk evaluation means 6 next determines or obtains from an outside source the average capitalization value for the particular market which is being followed and compares the result to the</p>

	computed capitalization of the model basket. Should there be a discrepancy between the two values which is above a predetermined threshold, the program implemented by means 6 may be directed to substitute either new stocks from the capital market or change the weighing of the stocks represented in the basket.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 23, and</li> <li>2. calculating the current operation value by summing the product of the net contribution by element to the components of value identified by component predictive models and the capitalized value of the components of value that are present in the enterprise current operation.</li> </ol>
Objection	The Applicant objects to the statement that "Tull teaches calculating the current operation value by summing the product of the net contribution by element to the components of value identified by component predictive models and the capitalized value of the components of value that are present in the enterprise current operation" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 28.

Dependent claim	<p>29. (amended) The computer readable medium of claim 23 wherein contributions by element to real option values are determined by:</p> <p>calculating the difference between the real option value calculated using the company cost of capital and the value calculated using the discount rate determined on the basis of relative element strength; and</p> <p>assigning the value difference to the different elements of value based on their relative contribution to the difference in the two discount rates.</p>
Reference cited in Office Action (Tull, column 7, lines 15-65)	<p>This selection is done in accordance with one embodiment of the present invention using a mathematical programming function which employs data means 2 for receiving and storing data about each stock in the capital market; portfolio modeling means 4 which correlate the available data with economic forecast models to suggest an optimal basket of stock shares; and risk evaluation means 6 predicting the future correlation of the selected stocks in the basket with the market valuation. Risk evaluation means 6 employs a multi-factor risk model and relies on optimization techniques to ensure that the subset of stocks underlying an OPALS will track the market index as closely as possible. The cooperation between data means 2, modeling means 4 and risk evaluation means 6 results in a basket of stock shares whose weighing further reflects liquidity considerations, industry exposure and market capitalization.</p>
What is described?	<p>A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.</p>
What's missing?	<ol style="list-style-type: none"> <li>1. See "what's missing" for claim 23, and</li> <li>2. calculating the difference between the real option value calculated using the company cost of capital and the value calculated using the discount rate determined on the basis of relative element strength; and assigning the value difference to the different elements of value based on their relative contribution to the difference in the two discount rates.</li> </ol>
Objection	<p>The Applicant objects to the statement that "Tull makes it obvious to calculate the difference between the real option value calculated using the company cost of capital and the value calculated using the discount rate determined on the basis of relative element strength and assigning the value difference to the different elements of value based on their relative contribution to the difference in the two discount rates" as it does not appear to be supported by the evidence referenced in the office action.</p>
Conclusion	<p>The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 29.</p>

Dependent claim	30. (amended) The computer readable medium of claim 9 wherein contributions by element to market sentiment value are determined by subtracting any contributions by element to current operation value and real option value from the net contribution to business value identified by the business value predictive model.
Reference cited in Office Action	None
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems and calculation of a home owner's total assets.
What's missing?	1. See "what's missing" for claim 9, and 2. Evidence to support the Examiner's assertion regarding this dependent claim..
Objection	The Applicant objects to the statement that "Atkins discloses wherein contributions by element to market sentiment value are determined by subtracting any contributions by element to current operation value and real option value from the net contribution to business value identified by the business value predictive model" as it does not appear to be supported by any evidence presented in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 30.

Dependent claim	31. (amended) The computer readable medium of claim 1 where the element quantifications are continuously calculated for a specified point in time within a sequential series of points in time.
Reference cited in Office Action (Tull, column 3, lines 24-27)	Another object of the present invention is to provide a system and method for optimized selection of shares the performance of which is designed to track the performance of the related equity index over a limited period of time.
What is described?	A system for creating and managing a financial instrument based on a portfolio of stocks that mirror an established capital market.
What's missing?	3. See "what's missing" for claim 1, and 4. Element quantifications that are continuously calculated for a specified point in time.
Objection	The Applicant objects to the statement that "Tull teaches element quantifications that are continuously calculated for a specified point in time within a sequential series of points in time" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 31.



Dependent claim	32. (amended) The computer readable medium of claim 1 where the intangible element quantifications are optionally reported using a paper document or electronic display.
Reference cited in Office Action (Atkins, column 21, line 65)	The system of the present invention can provide the client a periodic account activity report that clearly displays the details with regard to each transaction conducted within the account during a relevant time period such as a purchase and sale of securities, withdrawals or deposit of cash, acquisition of annuities and insurance policies, and access to one or more types of credit facilities.
Reference cited in Office Action (Atkins, column 2, lines 30 - 35)	(Here, we refer to the term "mortgage" in its most commonly used sense to refer to the entire relationship between the financial institution and the borrower: the loan, the security interest and the contractual obligation to pay the loan. In other contexts, we use the term "mortgage" in its traditional sense to refer to a conditional transfer of real property to secure a loan.)
What is described?	A computer based system for managing a client's personal investments and liabilities that includes access to expert systems and calculation of a home owner's total assets.
What's missing?	1. See "what's missing" for claim 1, and 2. intangible element quantifications that are optionally reported using a paper document or electronic display..
Objection	The Applicant objects to the statement that "Atkins discloses where the intangible element quantifications are optionally reported using a paper document or electronic display" as it does not appear to be supported by the evidence referenced in the office action.
Conclusion	The cited references can not be combined, modified or used to describe, anticipate or make obvious claim 32.

As detailed above, the cited references can not be combined, modified or used to describe, anticipate or make obvious any aspect of any of the claims in the instant application. In fact, the opposite is true as the cited references and unsupported opinions teach away from the method of the instant application in a number of ways.

As stated previously, the 6 October 2004 office action has failed to establish a prima facie case of obviousness in for every claim in at least three distinct ways by:

1. failing to identify a combination of references that describe or anticipate a single claim in the instant application;
2. failing to provide any objective teachings that favor the combination of references used to support the obviousness finding; and

3. failing to explain the manner in which the alleged teachings of the cited references would be combined to produce results that approximate those claimed by the instant application.

Each one of these failure modes are sufficient to traverse all § 103 rejections. The Applicant again notes that there are still other ways in which all §103 rejections of the claims can be traversed.

### 35 U.S.C. § 112 Rejection of Claims

In the 6 October 2004 office action, Claims 1, 3 and 10 are rejected under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the invention. The Applicant traverses all § 112 rejections for claims 1, 3 and 10 by noting that the office action does not establish a prima facie case of indefiniteness. It is well established that "in rejecting a claim under 35 U.S.C. 112, it is incumbent on the examiner to establish that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims" (Ex parte Wu, 10 USPQ 2d 2031, 2033 (Board of Patent Appeals and Interference 1989)). The Examiner has not presented any evidence to support his assertion and has therefore failed to establish that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims. Furthermore, the cancellation of claims, detailed above, makes this rejection moot.

In the 6 October 2004 office action, Claims 16 - 29 and 31 - 32, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, the office action states that there is insufficient antecedent basis for the limitations in the claims. Because the terms cited in the rejected claims – relative ranking, real option discount rate, predictive model, valuation, contribution by element, enterprise, current operation, business value and elements quantification – are all well known to those of average skill in the art, the rejections relate primarily to clerical errors. The Applicant also notes that the cancellation of these claims makes these rejections moot.

### **Reservation of Rights**

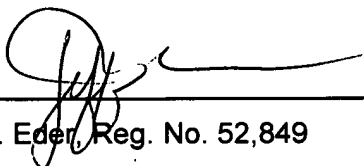
The Applicant hereby explicitly reserves the right to present the canceled claims for re-examination in their original format. The cancellation and modification of the pending claims to put the instant application in a final form for allowance and issue is not to be construed as a surrender of subject matters covered by the original claims before their modification or cancellation.

### **Summary/Conclusion**

The Applicant requests consideration of the present application as amended herewith.

Submitted,

Dated: 12/31/2004

  
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Jeff S. Eder, Reg. No. 52,849